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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,954	06/27/2005	Kari Saviharju	30574	8619

23117 7590 01/09/2007

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EXAMINER	
RINEHART, KENNETH	
ART UNIT	PAPER NUMBER
3749	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/516,954	SAVIHARJU ET AL.	
	Examiner	Art Unit	
	Kenneth B. Rinehart	3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 February 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/6/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 5-22, 26, 27 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 92/18690. WO 92/18690 shows a boiler further comprising a water or steam circulation system having superheaters and a furnace for recovering energy and chemicals from spent liquor combusted in the furnace (18, 51, fig. 1); walls of the boiler further comprising a plurality water cooled tubes in fluid communication with the water or steam circulation system (page 13, lines 27-30); at least one cavity having cavity walls formed of water cooled tubes in fluid communication with the water or steam circulation system (22, fig. 1); a fuel combustor arranged in the at least one cavity (end of 62, fig. 1); at least one outlet for discharging combustion gases from the cavity to the boiler (arrow above 51, fig. 1), and an interior of the at least one cavity having a cavity heat exchanger for superheating steam generated by superheaters in the boiler (72, fig. 1), a part of the walls of the at least one cavity is formed of the walls of the boiler (fig. 1), the at least one cavity is located on a front wall of the boiler (fig. 1), the at least one outlet of the cavity is in a front wall of the boiler and said outlet is opposite to a bullnose section of a rear wall of the boiler (fig. 1), the at least one outlet for the cavity is connected to the boiler and provides a conduit for combustion gases from the at least one cavity to be discharged immediately upstream of the superheaters of the boiler (fig. 1), a boiler further comprising at

least one wall defining a furnace (18, fig. 1), at least one liquor injector arranged to inject liquor into the furnace (40, fig. 1), and at least one superheater arranged in a flue gas passage for combustion gases generated in the furnace (51, fig. 1), a plurality of water cooled tubes arranged in the at least one wall defining the furnace (page 13, lines 27-30); at least one cavity separate from the furnace and having walls formed of water cooled tubes (72, fig. 1), wherein fluid flowing through the water cooled tubes of the wall defining the furnace flows through the water cooled tubes of the cavity and to the at least one superheater (page 13, lines 27-30); a fuel combustor arranged in the at least one cavity (end of 62, fig. 1); at least one outlet for discharging combustion gases from the cavity to the boiler (arrow above 51, fig. 1), and an interior of the at least one cavity being provided with a heat exchanger which receives superheated steam from the at least one superheater (72, fig. 1), the liquor injector discharges spent liquor into the furnace (40, fig. 1), the at least one superheater is a plurality of superheaters arranged in a flue gas stream of the boiler (51, surfaces, fig. 1), a part of the walls of the at least one cavity is formed of the water cooled tubes of the walls of the boiler (72, fig. 1), the at least one cavity is located on a front wall of the boiler (22, fig. 1), the at least one outlet for combustion gases is connected to the boiler and provides a conduit for combustion gases from the at least one cavity to be discharged immediately upstream of the superheaters of the boiler (fig. 1), the outlet of the cavity is in a front wall of the boiler and said outlet is opposite to a bullnose section of a rear wall of the boiler (fig. 1), a gasifier for gasifying a biomass material and said gasifier produces combustion gas provided to the fuel combustor of the cavity (14, 16, fig. 1), the cavity is adjacent an outside surface of the at least one wall of the furnace (fig. 1), injecting spent liquor in the furnace to generate hot combustion flue gases in the boiler (40, fig.

1), cooling the at least one wall by flowing cooling fluid through the wall (page 13, lines 27-30), generating hot combustion gases in the cavity (fig. 1); cooling a wall of the cavity by flowing cooling fluid from the wall of the boiler through the wall of the cavity (page 13, lines 27-30); and passing cooling fluid from the wall of the cavity to a superheater arranged in a flue gas passage of the boiler (page 13, lines 27-30), the hot combustion gases in the cavity are discharged into the boiler upstream of the superheater (fig. 1), comprising passing fluid from the superheater in the gas passage of the boiler to a heat exchanger in the cavity (page 13, lines 27-30), the cooling fluid flows vertically upward through the wall of the furnace and then to the cavity (51, 74, fig. 1), the combustion gases in the cavity are generated by combustion gases generated in a gasifier that gasifies a biomass material, the biomass material is selected from a group consisting of natural gas, LPG, oil, methanol and liquefied biomass (abstract, fig. 1).

Claims 5-7, 9-15, 18-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamm (2606103). Hamm shows a boiler further comprising a water or steam circulation system having superheaters and a furnace for recovering energy and chemicals from spent liquor combusted in the furnace (10, A, fig. 1); walls of the boiler further comprising a plurality water cooled tubes in fluid communication with the water or steam circulation system (1, fig. 1); at least one cavity having cavity walls formed of water cooled tubes in fluid communication with the water or steam circulation system (16, 17, 27, 10, fig. 1); a fuel combustor arranged in the at least one cavity (14, fig. 1); at least one outlet for discharging combustion gases from the cavity to the boiler (fig. 1), and an interior of the at least one cavity having a cavity heat exchanger for superheating steam generated by superheaters in the boiler (15, fig. 1), a part of the walls of the at least one cavity is formed of the walls of the boiler (fig. 2), the at least one cavity is located on

a front wall of the boiler (fig. 1), the at least one outlet for the cavity is connected to the boiler and provides a conduit for combustion gases from the at least one cavity to be discharged immediately upstream of the superheaters of the boiler (fig. 1), a boiler further comprising at least one wall defining a furnace (fig. 1), at least one liquor injector arranged to inject liquor into the furnace (2, fig. 1), and at least one superheater arranged in a flue gas passage for combustion gases generated in the furnace (10, fig. 1), a plurality of water cooled tubes arranged in the at least one wall defining the furnace (fig. 1); at least one cavity separate from the furnace and having walls formed of water cooled tubes (fig. 2), wherein fluid flowing through the water cooled tubes of the wall defining the furnace flows through the water cooled tubes of the cavity and to the at least one superheater (10, 27, 16, fig. 1); a fuel combustor arranged in the at least one cavity (14, fig. 1); at least one outlet for discharging combustion gases from the cavity to the boiler (fig. 1), and an interior of the at least one cavity being provided with a heat exchanger which receives superheated steam from the at least one superheater (10, 27, 17, 16, fig. 1), the liquor injector discharges spent liquor into the furnace (2, fig. 1), the at least one superheater is a plurality of superheaters arranged in a flue gas stream of the boiler (10, fig. 1), a part of the walls of the at least one cavity is formed of the water cooled tubes of the walls of the boiler (16, fig. 1), the at least one cavity is located on a front wall of the boiler (fig. 1), the at least one outlet for combustion gases is connected to the boiler and provides a conduit for combustion gases from the at least one cavity to be discharged immediately upstream of the superheaters of the boiler (fig. 1), the cavity is adjacent an outside surface of the at least one wall of the furnace (fig. 1), injecting spent liquor in the furnace to generate hot combustion flue gases in the boiler (2, fig. 1), cooling the at least one wall by flowing cooling fluid through the wall (1, fig. 1),

generating hot combustion gases in the cavity (fig. 1); cooling a wall of the cavity by flowing cooling fluid from the wall of the boiler through the wall of the cavity (fig. 1); and passing cooling fluid from the wall of the cavity to a superheater arranged in a flue gas passage of the boiler (10, 27, 17, 16, fig. 1), the hot combustion gases in the cavity are discharged into the boiler upstream of the superheater (fig. 1), comprising passing fluid from the superheater in the gas passage of the boiler to a heat exchanger in the cavity (10, 27, 17, 16, fig. 1), the cooling fluid flows vertically upward through the wall of the furnace and then to the cavity (fig. 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 92/18690. WO 92/18690 discloses a boiler further comprising a water or steam circulation system having superheaters and a furnace for recovering energy and chemicals from spent liquor combusted in the furnace (18, 51, fig. 1); walls of the boiler further comprising a plurality water cooled tubes in fluid communication with the water or steam circulation system (page 13, lines 27-30); at least one cavity having cavity walls formed of water cooled tubes in fluid communication with the water or steam circulation system (22, fig. 1); a fuel combustor arranged in the at least one cavity (end of 62, fig. 1); at least one outlet for discharging combustion gases from the cavity to the boiler (arrow above 51, fig. 1), and an interior of the at least one cavity

having a cavity heat exchanger for superheating steam generated by superheaters in the boiler (72, fig. 1), a part of the walls of the at least one cavity is formed of the walls of the boiler (fig. 1), the at least one cavity is located on a front wall of the boiler (fig. 1), the at least one outlet of the cavity is in a front wall of the boiler and said outlet is opposite to a bullnose section of a rear wall of the boiler (fig. 1), the at least one outlet for the cavity is connected to the boiler and provides a conduit for combustion gases from the at least one cavity to be discharged immediately upstream of the superheaters of the boiler (fig. 1), a boiler further comprising at least one wall defining a furnace (18, fig. 1), at least one liquor injector arranged to inject liquor into the furnace (40, fig. 1), and at least one superheater arranged in a flue gas passage for combustion gases generated in the furnace (51, fig. 1), a plurality of water cooled tubes arranged in the at least one wall defining the furnace (page 13, lines 27-30); at least one cavity separate from the furnace and having walls formed of water cooled tubes (72, fig. 1), wherein fluid flowing through the water cooled tubes of the wall defining the furnace flows through the water cooled tubes of the cavity and to the at least one superheater (page 13, lines 27-30); a fuel combustor arranged in the at least one cavity (end of 62, fig. 1); at least one outlet for discharging combustion gases from the cavity to the boiler (arrow above 51, fig. 1), and an interior of the at least one cavity being provided with a heat exchanger which receives superheated steam from the at least one superheater (72, fig. 1), the liquor injector discharges spent liquor into the furnace (40, fig. 1), the at least one superheater is a plurality of superheaters arranged in a flue gas stream of the boiler (51, surfaces, fig. 1), a part of the walls of the at least one cavity is formed of the water cooled tubes of the walls of the boiler (72, fig. 1), the at least one cavity is located on a front wall of the boiler (22, fig. 1), the at least one outlet for

combustion gases is connected to the boiler and provides a conduit for combustion gases from the at least one cavity to be discharged immediately upstream of the superheaters of the boiler (fig. 1), the outlet of the cavity is in a front wall of the boiler and said outlet is opposite to a bullnose section of a rear wall of the boiler (fig. 1), a gasifier for gasifying a biomass material and said gasifier produces combustion gas provided to the fuel combustor of the cavity (14, 16, fig. 1), the cavity is adjacent an outside surface of the at least one wall of the furnace (fig. 1), injecting spent liquor in the furnace to generate hot combustion flue gases in the boiler (40, fig. 1), cooling the at least one wall by flowing cooling fluid through the wall (page 13, lines 27-30), generating hot combustion gases in the cavity (fig. 1); cooling a wall of the cavity by flowing cooling fluid from the wall of the boiler through the wall of the cavity (page 13, lines 27-30); and passing cooling fluid from the wall of the cavity to a superheater arranged in a flue gas passage of the boiler (page 13, lines 27-30), the hot combustion gases in the cavity are discharged into the boiler upstream of the superheater (fig. 1), comprising passing fluid from the superheater in the gas passage of the boiler to a heat exchanger in the cavity (page 13, lines 27-30), the cooling fluid flows vertically upward through the wall of the furnace and then to the cavity (51, 74, fig. 1), the combustion gases in the cavity are generated by combustion gases generated in a gasifier that gasifies a biomass material, the biomass material is selected from a group consisting of natural gas, LPG, oil, methanol and liquefied biomass (abstract, fig. 1), passing fluid from the superheater in the gas passage of the boiler to a heat exchanger in the cavity (fig. 1, (page 13, lines 27-30). WO 92/18690 discloses the claimed invention except for the cooling fluid in the superheater is heated to a temperature no greater than 520 C, , and wherein the fluid in the superheater is heated to a temperature no greater than 520°C and the

fluid in the heat exchanger is heated to a temperature in a range of 500°C to 600°C, and wherein the fluid in the superheater is heated to a temperature in a range of 480°C to 5200 C and the fluid in the heat exchanger is heated to a temperature in a range of 500°C to 600°C. It would have been obvious to one of ordinary skill in the art at the time the invention was made to the cooling fluid in the superheater is heated to a temperature no greater than 520 C, passing fluid from the superheater in the gas passage of the boiler to a heat exchanger in the cavity, and wherein the fluid in the superheater is heated to a temperature no greater than 520°C and the fluid in the heat exchanger is heated to a temperature in a range of 500°C to 600°C, and wherein the fluid in the superheater is heated to a temperature in a range of 480°C to 5200 C and the fluid in the heat exchanger is heated to a temperature in a range of 500°C to 600°C, since it has been held that the where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Claims 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamm (2606103). Hamm shows a boiler further comprising a water or steam circulation system having superheaters and a furnace for recovering energy and chemicals from spent liquor combusted in the furnace (10, A, fig. 1); walls of the boiler further comprising a plurality water cooled tubes in fluid communication with the water or steam circulation system (1, fig. 1); at least one cavity having cavity walls formed of water cooled tubes in fluid communication with the water or steam circulation system (16, 17, 27, 10, fig. 1); a fuel combustor arranged in the at least one cavity (14, fig. 1); at least one outlet for discharging combustion gases from the cavity to the boiler (fig. 1), and an interior of the at least one cavity having a cavity heat exchanger for superheating steam generated by superheaters in the boiler (15, fig. 1), a part of the walls of the

at least one cavity is formed of the walls of the boiler (fig. 2), the at least one cavity is located on a front wall of the boiler (fig. 1), the at least one outlet for the cavity is connected to the boiler and provides a conduit for combustion gases from the at least one cavity to be discharged immediately upstream of the superheaters of the boiler (fig. 1), a boiler further comprising at least one wall defining a furnace (fig. 1), at least one liquor injector arranged to inject liquor into the furnace (2, fig. 1), and at least one superheater arranged in a flue gas passage for combustion gases generated in the furnace (10, fig. 1), a plurality of water cooled tubes arranged in the at least one wall defining the furnace (fig. 1); at least one cavity separate from the furnace and having walls formed of water cooled tubes (fig. 2), wherein fluid flowing through the water cooled tubes of the wall defining the furnace flows through the water cooled tubes of the cavity and to the at least one superheater (10, 27, 16, fig. 1); a fuel combustor arranged in the at least one cavity (14, fig. 1); at least one outlet for discharging combustion gases from the cavity to the boiler (fig. 1), and an interior of the at least one cavity being provided with a heat exchanger which receives superheated steam from the at least one superheater (10, 27, 17, 16, fig. 1), the liquor injector discharges spent liquor into the furnace (2, fig. 1), the at least one superheater is a plurality of superheaters arranged in a flue gas stream of the boiler (10, fig. 1), a part of the walls of the at least one cavity is formed of the water cooled tubes of the walls of the boiler (16, fig. 1), the at least one cavity is located on a front wall of the boiler (fig. 1), the at least one outlet for combustion gases is connected to the boiler and provides a conduit for combustion gases from the at least one cavity to be discharged immediately upstream of the superheaters of the boiler (fig. 1), the cavity is adjacent an outside surface of the at least one wall of the furnace (fig. 1), injecting spent liquor in the furnace to generate hot combustion flue gases in the boiler (2, fig. 1),

cooling the at least one wall by flowing cooling fluid through the wall (1, fig. 1), generating hot combustion gases in the cavity (fig. 1); cooling a wall of the cavity by flowing cooling fluid from the wall of the boiler through the wall of the cavity (fig. 1); and passing cooling fluid from the wall of the cavity to a superheater arranged in a flue gas passage of the boiler (10, 27, 17, 16, fig. 1), the hot combustion gases in the cavity are discharged into the boiler upstream of the superheater (fig. 1), comprising passing fluid from the superheater in the gas passage of the boiler to a heat exchanger in the cavity (10, 27, 17, 16, fig. 1), the cooling fluid flows vertically upward through the wall of the furnace and then to the cavity (fig. 1), passing fluid from the superheater in the gas passage of the boiler to a heat exchanger in the cavity (fig. 1). Hamm discloses the claimed invention except for the cooling fluid in the superheater is heated to a temperature no greater than 520 C, and wherein the fluid in the superheater is heated to a temperature no greater than 520°C and the fluid in the heat exchanger is heated to a temperature in a range of 500°C to 600°C, and wherein the fluid in the superheater is heated to a temperature in a range of 480°C to 5200 C and the fluid in the heat exchanger is heated to a temperature in a range of 500°C to 600°C. It would have been obvious to one of ordinary skill in the art at the time the invention was made to the cooling fluid in the superheater is heated to a temperature no greater than 520 C, passing fluid from the superheater in the gas passage of the boiler to a heat exchanger in the cavity, and wherein the fluid in the superheater is heated to a temperature no greater than 520°C and the fluid in the heat exchanger is heated to a temperature in a range of 500°C to 600°C, and wherein the fluid in the superheater is heated to a temperature in a range of 480°C to 5200 C and the fluid in the heat exchanger is heated to a temperature in a range of 500°C to 600°C, since it has been held that the where the

general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Claims 17, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamm (2606103) in view of WO 92/18690. Hamm discloses a boiler further comprising a water or steam circulation system having superheaters and a furnace for recovering energy and chemicals from spent liquor combusted in the furnace (10, A, fig. 1); walls of the boiler further comprising a plurality water cooled tubes in fluid communication with the water or steam circulation system (1, fig. 1); at least one cavity having cavity walls formed of water cooled tubes in fluid communication with the water or steam circulation system (16, 17, 27, 10, fig. 1); a fuel combustor arranged in the at least one cavity (14, fig. 1); at least one outlet for discharging combustion gases from the cavity to the boiler (fig. 1), and an interior of the at least one cavity having a cavity heat exchanger for superheating steam generated by superheaters in the boiler (15, fig. 1), a part of the walls of the at least one cavity is formed of the walls of the boiler (fig. 2), the at least one cavity is located on a front wall of the boiler (fig. 1), the at least one outlet for the cavity is connected to the boiler and provides a conduit for combustion gases from the at least one cavity to be discharged immediately upstream of the superheaters of the boiler (fig. 1), a boiler further comprising at least one wall defining a furnace (fig. 1), at least one liquor injector arranged to inject liquor into the furnace (2, fig. 1), and at least one superheater arranged in a flue gas passage for combustion gases generated in the furnace (10, fig. 1), a plurality of water cooled tubes arranged in the at least one wall defining the furnace (fig. 1); at least one cavity separate from the furnace and having walls formed of water cooled tubes (fig. 2), wherein fluid flowing through the water cooled tubes of the wall defining the furnace flows through the water

cooled tubes of the cavity and to the at least one superheater (10, 27, 16, fig. 1); a fuel combustor arranged in the at least one cavity (14, fig. 1); at least one outlet for discharging combustion gases from the cavity to the boiler (fig. 1), and an interior of the at least one cavity being provided with a heat exchanger which receives superheated steam from the at least one superheater (10, 27, 17, 16, fig. 1), the liquor injector discharges spent liquor into the furnace (2, fig. 1), the at least one superheater is a plurality of superheaters arranged in a flue gas stream of the boiler (10, fig. 1), a part of the walls of the at least one cavity is formed of the water cooled tubes of the walls of the boiler (16, fig. 1), the at least one cavity is located on a front wall of the boiler (fig. 1), the at least one outlet for combustion gases is connected to the boiler and provides a conduit for combustion gases from the at least one cavity to be discharged immediately upstream of the superheaters of the boiler (fig. 1), the cavity is adjacent an outside surface of the at least one wall of the furnace (fig. 1), injecting spent liquor in the furnace to generate hot combustion flue gases in the boiler (2, fig. 1), cooling the at least one wall by flowing cooling fluid through the wall (1, fig. 1), generating hot combustion gases in the cavity (fig. 1); cooling a wall of the cavity by flowing cooling fluid from the wall of the boiler through the wall of the cavity (fig. 1); and passing cooling fluid from the wall of the cavity to a superheater arranged in a flue gas passage of the boiler (10, 27, 17, 16, fig. 1), the hot combustion gases in the cavity are discharged into the boiler upstream of the superheater (fig. 1), comprising passing fluid from the superheater in the gas passage of the boiler to a heat exchanger in the cavity (10, 27, 17, 16, fig. 1), the cooling fluid flows vertically upward through the wall of the furnace and then to the cavity (fig. 1). WO 92/18690 discloses applicant's invention substantially as claimed with the exception of a gasifier for gasifying a biomass material and said gasifier produces combustion

gas provided to the fuel combustor of the cavity, the combustion gases in the cavity are generated by combustion gases generated in a gasifier that gasifies a biomass material, the biomass material is selected from a group consisting of natural gas, LPG, oil, methanol and liquefied biomass. WO 92/18690 teaches a gasifier for gasifying a biomass material and said gasifier produces combustion gas provided to the fuel combustor of the cavity (14, 16, fig. 1), the combustion gases in the cavity are generated by combustion gases generated in a gasifier that gasifies a biomass material, the biomass material is selected from a group consisting of natural gas, LPG, oil, methanol and liquefied biomass (abstract, fig. 1) for the purpose of improving the utilization factor of the pulp mill. It would have been obvious to one of ordinary skill in the art to modify Hamm by including a gasifier for gasifying a biomass material and said gasifier produces combustion gas provided to the fuel combustor of the cavity, the combustion gases in the cavity are generated by combustion gases generated in a gasifier that gasifies a biomass material, the biomass material is selected from a group consisting of natural gas, LPG, oil, methanol and liquefied biomass as taught by WO 92/18690 for the purpose of improving the utilization factor of the pulp mill so that operating and maintenance costs are reduced.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth B. Rinehart whose telephone number is 571-272-4881. The examiner can normally be reached on 7:20 -4:20.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Josiah Cocks can be reached on 571-272-4874. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

kbr

KENNETH RINEHART
PRIMARY EXAMINER